

REMARKS

Initially, Applicant thanks the Examiner for acknowledging the claim for priority under 35 U.S.C. §119(e).

Additionally, Applicant notes the Examiner's request for a cleaner copy of the inventor's residence address, citizenship, and post office address information. A copy of the form previously entered in this case is attached. Applicant has attempted to enhance the quality of the photocopy of this form as much as possible. In the event this form is still not of sufficient quality, the following is a transcript of the relevant information:

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Claims 1-20 are all the claims pending in the present application, claims 19 and 20 having been added to recite a feature of the disclosed embodiments with particularity. Claims 4, 12, 14, and 17 have been amended to recite aspects of the disclosed embodiments more clearly. Support for the foregoing amendments is found throughout the present application; with respect to claim 12, support for the recited "spherical" mount can be found, in particular, illustrated in FIG. 4 and in the written description thereof at page 8. No new matter has been added.

Claims 12-16 stand rejected under 35 U.S.C. §112, first paragraph. Claims 4, 5, 10, 11, 14, and 15 stand rejected under 35 U.S.C. §112, second paragraph, as indefinite. Applicant submits that the foregoing amendments adequately address the issues noted by the Examiner at pages 2 and 3 of the outstanding Office Action. In that regard, Applicant notes that while the sphere and cone mounts recited in claim 12 provide a semi-kinematic connection for the coupled elements, the reference to "a semi-kinematic mount" in claim

14 as filed was not in any way indefinite with respect to the mounts connecting *the second plurality* of camming elements *to a base*. Similarly, Applicant submits that the reference to “a semi-kinematic mount” in claim 4 as filed was not in any way indefinite with respect to the mounts connecting *the second plurality* of camming elements *to a base*. The meaning of these claims as filed was clear from the context.

Nevertheless, in the spirit of cooperation, claims 4 and 14 have been amended to recite “a second semi-kinematic mount.” This is true for claim 14 even though claim 12, from which it depends, does not specifically recite “a semi-kinematic mount” in the first place, as suggested by the Examiner. Applicant believes that the amendments to claims 4 and 14 eliminate any potential for ambiguity.

Accordingly, Applicant submits that the pending claims are definite, and respectfully requests that the rejections under 35 U.S.C. §112, first and second paragraphs, be withdrawn.

Claims 1, 2, 4-11, 17, and 18 stand rejected under 35 U.S.C. §102(b) as anticipated by United States Patent 5,812,310 to Stewart et al. (Stewart). Claim 3 stands rejected under 35 U.S.C. §103(a) as unpatentable over Stewart in view of United States Patent 6,517,060 to Kemeny. Applicant respectfully traverses the prior art rejections, and requests reconsideration and allowance of all the pending claims based upon the following remarks.

Additionally, Applicant notes that while the Examiner failed specifically to indicate that claims 12-16 are directed to allowable subject matter, neither did the Examiner reject these claims based upon the art of record. Applicant submits that claims 12-16 are allowable, and requests that the Examiner provide acknowledgement to that effect in the next correspondence from the Office.

Aspects of the present invention are directed to imparting orthogonal motion to an x-y stage using a z-axis frame. As set forth, for example, at page 3 of the present application, camming elements are generally mounted to a carrier plate using a semi-

kinematic mounting technique. This feature, called out in every pending claim, provides tolerance flexibility during assembly of the various embodiments illustrated and described. Additionally, the semi-kinematic mounts do not over constrain the z-axis frame; this mounting technique minimizes binding conditions caused by over constraint even after assembly when the upper camming elements are rigidly attached to the carrier plate. *See, e.g.*, page 10 of the present application.

Rejections Under 35 U.S.C. §102 Based On Stewart

As noted above, claims 1, 2, 4-11, 17, and 18 stand rejected under 35 U.S.C. §102(b) as anticipated by Stewart. To anticipate the pending claims under any of the various subsections of 35 U.S.C. §102, a reference must teach every element recited in the claims. Applicant respectfully submits that the Stewart reference is more deficient than the Examiner acknowledges. Specifically, since the Stewart patent fails to teach every element recited in independent claims 1, 12, and 17, the reference is insufficient to anticipate the subject matter recited in claims 1, 2, 4-11, 17, and 18, and the rejection under 35 U.S.C. §102(b) is improper.

In particular, the Examiner has stated (at page 4 of the Office Action) that Stewart teaches a semi-kinematic mount connecting the first plurality of camming elements to a surface of the carrier plate as recited in claims 1 and 17. In that regard, the Examiner has identified the tension spring element (reference numeral 62 in FIG. 2 of Stewart) as the “semi-kinematic mount” recited in the pending claims. On the contrary, however, tension springs 60,62 merely provide counterloading for the X-axis and Y-axis linear actuators 44, 46, respectively. These elements have absolutely no relation whatsoever to the mounting of the first plurality of camming elements to a surface of the carrier plate, but rather facilitate movement of the X-axis and Y-axis frames in their respective directions under computer control through the linear actuators. *See, e.g.*, Stewart at col. 4, ll. 2-12.

Accordingly, Stewart fails to teach or even to suggest at least “a semi-kinematic mount connecting the first plurality of camming elements” to a surface of the carrier plate

as recited in claims 1 and 17. As noted above, the sphere and cone mounting technique recited in pending claim 12 is similarly semi-kinematic, and therefore neither taught nor suggested by Stewart.

At least for the reasons set forth above, the Stewart reference is insufficient to anticipate claims 1-20, and the rejection of claims 1, 2, 4-11, 17, and 18 under 35 U.S.C. §102(b) is therefore improper. Applicant submits that the pending claims are allowable at least for the foregoing reasons.

Rejections Under 35 U.S.C. §103

Additionally, claim 3 stands rejected under 35 U.S.C. §103(a) as unpatentable over Stewart in view of Kemeny. To render obvious the pending claims under 35 U.S.C. §103(a), the art, whether considered alone or in combination, must teach specifically, or at least suggest, every element recited in the claims. In the case of the asserted combinations of references, Applicant submits that the cited combinations fail to disclose every recited element in the pending claims. Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness.

As described in detail above, the Stewart patent fails to teach or even to suggest a semi-kinematic mount as described and claimed in the present application. While the Kemeny reference arguably teaches a ball-in-cone mount for isolating vibration along a specific axis, it would not have been obvious to combine these references as set forth in the present application. In particular, the semi-kinematic mounts recited in the pending claims do not provide vibration isolation, but rather provide degrees of freedom and higher tolerances during assembly of the apparatus (*see, e.g.*, pages 7-10 of the present application). Even given the knowledge of isolation mounts such as those described in Kemeny, an ordinarily skilled artisan would not have been informed regarding how to apply that knowledge to the problem solved by features and aspects of the present invention.

For example, it would not have been obvious which connections should be semi-kinematic, or which embodiment of connector should be employed for a particular

application. The Examiner has applied an “obvious to try” standard, which is an impermissible approach to an obviousness determination. *See, e.g., In re O’Farrell*, 853 F.2d 894, 7 USPQ2d 1673 (Fed. Cir. 1988) and MPEP §2145 X., B. “Obvious To Try Rationale.”

In any event, even the combination of references fails to teach “a semi-kinematic mount connecting the first plurality of camming elements” to a surface of the carrier plate as recited in claim 1 and incorporated into claim 3.

Based upon the foregoing remarks, and even assuming, *arguendo*, that the references may properly be combined, Applicant submits that the combination still fails to teach or to suggest every element recited in the pending claims, and that the rejection of claim 3 under 35 U.S.C. §103(a) is therefore improper. At least for the reasons set forth above, claim 3 is allowable.

Gary M. Gunderson -
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CONCLUSION

Based upon the foregoing analysis, Applicant respectfully submits that the present application is currently in condition for allowance. The Examiner is encouraged to contact the undersigned at 858-509-4007 if it is believed that a discussion may advance the prosecution of this case.

Applicant believes that a fee is required at this time. Please apply any charges or credit any overpayments to Deposit Account No. 50-2212.

Respectfully submitted,

PILLSBURY WINTHROP LLP

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